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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,421	11/19/2003	Suan Jeung Boon	2269-5660US (02-1391.00/U)	7753
24247	7590	10/06/2005	EXAMINER MITCHELL, JAMES M	
TRASK BRITT P.O. BOX 2550 SALT LAKE CITY, UT 84110			ART UNIT 2813	PAPER NUMBER

DATE MAILED: 10/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.F

Office Action Summary**Application No.**

10/717,421

Applicant(s)

BOON ET AL.

Examiner

James M. Mitchell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 05 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-67 is/are pending in the application.
- 4a) Of the above claim(s) 38-64 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,8-25,27-37 and 65-67 is/are rejected.
- 7) ☒ Claim(s) 2-7 and 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/4/05, 7/5/05, 11/19/03
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other Informational 1/14/05, 5/3/04

DETAILED ACTION

This office action is in response to applicant's election filed July 5, 2005.

Election

Claims 38-64 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election of claims 1-37 and 65-67 was made **without** traverse in the reply filed on July 5, 2005.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 8-24 and 65-67 are rejected under 35 U.S.C. 102(e) as being anticipated by Badehi (U.S. 2003/0080398).

Badehi (Fig. 2A-C; 3C-F; 5A-E) discloses:

(cl. 1, 65) a method for fabricating a chip-scale package, comprising: positioning a sacrificial substrate (126) adjacent to a back side of a device substrate (120) with a plurality of conductive elements (172) disposed on an active surface of

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said sacrificial substrate being aligned along at least one street (i.e. cut region, 184; Fig. 5C) between adjacent semiconductor devices on an active surface of said device substrate, securing said active surface of said sacrificial substrate to said back side (124) of said device substrate with a quantity of dielectric material (128) electrically isolating each conductive element of said plurality of conductive elements from said back side of said device substrate; severing (Fig. 3E) said device substrate to physically separate said adjacent semiconductor devices from one another and to form peripheral edges of each semiconductor device of said adjacent semiconductor devices, relative positions of said adjacent semiconductor devices being maintained by said sacrificial substrate, forming a dielectric coating (144) on at least portions of at least some of said peripheral edges, exposing at least portions of at least some conductive elements of said plurality of conductive elements (Fig. 3B), each exposed conductive element comprising a lower section of a contact pad of the chip-scale package; and forming a peripheral section (16) of said contact pad in communication with a corresponding lower section and on a peripheral edge of a semiconductor device (Fig. 5E);

(cl. 8) forming upper portion of pad in communication with peripheral section and upper section and over at least one semiconductor device (Fig. 5E);

(cl. 9-11) and substantially removing portion of sacrificial substrate (i.e. material removed from cutting; Fig. 5D-E) along street;

(cl. 12, 13) securing using a dielectric adhesive ("epoxy"; Par. 0064)

(cont. cl. 65) orienting over another device component (Fig. 2C)

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(cl. 14-17) introducing dielectric into at least one recess (Fig.5A), wherein the dielectric is a polymer (i.e. epoxy; Par. 0069);

(cl. 18) severing dielectric material to re-separate adjacent devices (Fig. 5E, 6E);

(cl 19, 21) and exposing is effected substantially concurrently with severing dielectric material (i.e. must sever through dielectric to reach pad; Fig. 5A-B);

(cl. 20, 22) and positioning said device substrate such that street is aligned over at some conductive elements (i.e. pad over area cut; Fig 5A-B) between adjacent pair of conductive elements;

(cl. 23-24) forming a temporary protective layer (142) over a portion of adjacent semiconductor devices;

(cl. 24) forming temporary is prior to severing (Fig. 3C-3E);

(cont. cl. 65-67) with device oriented over another device and contacts exposed (Fig. 2C) with intermediate conductive elements (84) disposed between lower section extending over chip package.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 25 and 27-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Badehi (U.S. 2003/0080398) as applied to claim 23 and further in combination with Prabhu et al. (U.S. 2003/0134453).

Badehi does not appear to show its IC package as an optical device or forming a transparent lid over the optical device.

Prabhu teaches an optical device (Par.0003) and forming a transparent lid (106) over the optical device and removing portions of lid (Fig.2D-E).

It would have been obvious to one of ordinary skill in the art to incorporate a transparent temporary layer/lid over an optical device in the package of Badehi, in order to provide an IC package as required by Badehi (Abstract) and to enable holding of the package as taught by Prabhu (Par. 0003)

Allowable Subject Matter

Claims 2-7 and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art does not disclose or make obvious forming a redistribution layer over the active surface of the device substrate and in electrical isolation form circuitry of an underlying device including all the limitations of the independent claim.

Conclusion


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M. Mitchell whose telephone number is (571) 272-1931. The examiner can normally be reached on M-F 8:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jmm
September 15, 2005


CARL WHITEHEAD, JR.
SUPERVISORY PATENT EXAMINER
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